(FILE 'HOME' ENTERED AT 17:18:55 ON 09 AUG 2004)

FILE 'REGISTRY' ENTERED AT 17:19:06 ON 09 AUG 2004

L1 1 S OCTAFLUOROPROPANE/CN

FILE 'CAPLUS, USPATFULL, CA, CAOLD' ENTERED AT 17:19:33 ON 09 AUG 2004

L2 3781 S L1
L3 6 S L2 AND PURITY OF 99.99
L4 1 S L2 AND PURITY OF 99.995?
L6 5 DUP REM L3 (1 DUPLICATE REMOVED)
L7 992 S L2 AND ETCH?
L8 674 S L7 AND GAS
L9 260 S L8 AND ETCH? GAS
L10 26 S L9 AND CLEANING GAS
L11 0 S L10 AND PURITY OF 99.99
L12 9 S L10 AND PURITY
L13 8 DUP REM L12 (1 DUPLICATE REMOVED)

L3 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:781238 CAPLUS
DN 130:145198
TI A fast gas ionization calorimeter filled with C3F8 for operation at high counting rates and hard radiation environment
AU Denisov, S.; Dushkin, A.; Fedyakin, N.; Gilitsky, Yu.; Ljudmirsky, M.; Spiridonov, A.; Sytnik, V.
CS Institute for High Energy Physics, Protvino, 142284, Russia
SO Nuclear Instruments & Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors, and Associated Equipment (1998), 419(2,3), 590-595
CODEN: NIMAER; ISSN: 0168-9002
PB Elsevier Science B.V.
DT Journal
LA English
AB The performance of a gas ionization EM calorimeter with planar electrodes and steel absorbers has been studied with a 26.6 GeV/c electron beam at the 70 GeV IHEP accelerator. The design of the calorimeter is optimized for the operation at high counting rates by minimizing the coupling inductance and by choosing rather fast and heavy perfluoroalkane C3F8 (vdr=0.07 mm/ns at a reduced field E/N=1.0+10-16 V cm2). This gas has been used for the first time in calorimetry applications. The total calorimeter thickness is ≈21X0. The signal readout has been done by remote 25 Ω low-noise preamplifiers coupled to towers via 25 Ω cable of 4 m length. The choice of a 25 Ω input impedance provides a complete matching between preamplifier, cable and tower. The studies of the calorimeter consisted in measuring the signal and noise spectra at different values of HV, ADC gate width and gas pressure. The electron attachment rate in C3F8 with a stated **purity** of **99.99%** is quite low (at a given E/N the mean free path of electrons is λ=2.2 cm at 1 atm). The intrinsic energy resolution of the calorimeter after noise subtraction is found to be independent of the gas pressure and equal to ≈7% at E=26.6 GeV/c.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 6 USPATFULL on STN
AN 1998:12186 USPATFULL
TI Process for producing tetrafluoromethane
IN Ohno, Hiromoto, Kanagawa, Japan
Nakajo, Tetsuo, Kanagawa, Japan
Arai, Tatsuharu, Kanagawa, Japan
Ohi, Toshio, Kanagawa, Japan
PA Showa Denko K.K., Tokyo, Japan (non-U.S. corporation)
PI US 5714648 19980203
AI US 1996-630532 19960410 (8)
PRAI JP 1996-51932 19960308
DT Utility
FS Granted
EXNAM Primary Examiner: Siegel, Alan
LREP Sughrue, Mion, Zinn, Macpeak & Seas, PLLC
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 403
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for producing tetrafluoromethane which comprises reacting a hydrofluorocarbon containing one carbon atom in the molecule with fluorine gas at an elevated temperature in a vapor phase in the presence of a diluent gas.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 3 OF 6 USPATFULL on STN
AN 1998:7261 USPATFULL
TI Process for producing hexafluoroethane
IN Ohno, Hiromoto, Kanagawa, Japan
    Nakajo, Tetsuo, Kanagawa, Japan
    Arai, Tatsuharu, Kanagawa, Japan
    Ohi, Toshio, Kanagawa, Japan
PA Showa Denko K.K., Tokyo, Japan (non-U.S. corporation)
PI US 5710351 19980120
AI US 1996-630534 19960410 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Killos, Paul J.
LREP Sughrue, Mion, Zinn, Macpeak & Seas, PLLC
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 437
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for producing hexafluoroethane which comprises reacting a hydrofluorocarbon containing two carbon atoms in the molecule with fluorine gas at an elevated temperature in a vapor phase in the presence of a diluent gas.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 6 USPATFULL on STN
AN 97:91698 USPATFULL
TI Process for producing perfluorocarbon
IN Ohno, Hiromoto, Kanagawa, Japan
    Nakajo, Tetsuo, Kanagawa, Japan
    Arai, Tatsuharu, Kanagawa, Japan
    Ohi, Toshio, Kanagawa, Japan
PA Showa Denko K.K., Tokyo, Japan (non-U.S. corporation)
PI US 5675046 19971007
AI US 1996-630350 19960410 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Ivy, C. Warren; Assistant Examiner: Smith, Lyman H.
LREP Sughrue, Mion, Zinn, Macpeak & Seas, PLLC
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 667
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for producing perfluorocarbons which comprises a step of contacting a hydrofluorocarbon with fluorine gas in a vapor phase at an elevated reaction temperature in a first reaction zone to obtain a gaseous reaction mixture; and a step of introducing the gaseous reaction mixture as a diluent gas into a second reaction zone and contacting the same therein at an elevated reaction temperature with a hydrofluorocarbon fed to the second reaction zone if necessary together with fluorine gas, the hydrofluorocarbon fed to the second reaction zone being different from the hydrofluorocarbon reacted in the first reaction zone.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 5 OF 6 USPATFULL on STN
AN 94:30696 USPATFULL
TI Method of manufacturing semiconductor device
IN Hori, Masaru, Aichi, Japan
    Yano, Hiroyuki, Yokohama, Japan
    Horioka, Keiji, Kawasaki, Japan

Hayashi, Hisataka, Urayasu, Japan
Jimbo, Sadayuki, Yokohama, Japan
Okano, Haruo, Tokyo, Japan
Tomioka, Kazuhiro, Tokyo, Japan
Ito, Yasuhiro, Yokohama, Japan
Mori, Haruki, Yokohama, Japan
PA Kabushiki Kaisha Toshiba, Kawasaki, Japan (non-U.S. corporation)
PI US 5302240 19940412
AI US 1993-20193 19930219 (8)
RLI Continuation-in-part of Ser. No. US 1992-824095, filed on 22 Jan 1992, now patented, Pat. No. US 5240554
PRAI JP 1991-21569 19910122
JP 1991-211302 19910730
JP 1992-4197 19920113
JP 1992-4198 19920113
JP 1992-32060 19920219
JP 1992-191076 19920717
DT Utility
FS Granted
EXNAM Primary Examiner: Powell, William
LREP Oblon, Spivak, McClelland, Maier & Neustadt
CLMN Number of Claims: 22
ECL Exemplary Claim: 13
DRWN 72 Drawing Figure(s); 29 Drawing Page(s)
LN.CNT 2235
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A dry-etching method comprising the steps of forming carbon film on a substrate to be etched, forming a resist pattern on said carbon thin film, selectively etching said carbon film using said resist pattern as a mask by a plasma of a gas mixture of a gas containing fluorine atoms and a gas containing oxygen atoms which are mixed at an atomic ratio of fluorine to oxygen of 198:1 to 1:2 so as to form a carbon film pattern, and selectively etching said substrate to be etched using said carbon film pattern as a mask or said resist pattern and said carbon film pattern as masks.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 6 OF 6 CA COPYRIGHT 2004 ACS on STN
AN 130:145198 CA
TI A fast gas ionization calorimeter filled with C3F8 for operation at high counting rates and hard radiation environment
AU Denisov, S.; Dushkin, A.; Fedyakin, N.; Gilitsky, Yu.; Ljudmirsky, M.; Spiridonov, A.; Sytnik, V.
CS Institute for High Energy Physics, Protvino, 142284, Russia
SO Nuclear Instruments & Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors, and Associated Equipment (1998), 419(2,3), 590-595
CODEN: NIMAER; ISSN: 0168-9002
PB Elsevier Science B.V.
DT Journal
LA English
AB The performance of a gas ionization EM calorimeter with planar electrodes and steel absorbers has been studied with a 26.6 GeV/c electron beam at the 70 GeV IHEP accelerator. The design of the calorimeter is optimized for the operation at high counting rates by minimizing the coupling inductance and by choosing rather fast and heavy perfluoroalkane C3F8 (vdr=0.07 mm/ns at a reduced field E/N=1.0+10-16 V cm2). This gas has been used for the first time in calorimetry applications. The total calorimeter thickness is ≈21X0. The signal readout has been done by remote 25 Ω low-noise preamplifiers coupled to towers via 25 Ω cable of 4 m length. The choice of a 25 Ω input impedance provides a complete matching between preamplifier, cable and tower. The studies of the calorimeter consisted in measuring the signal and noise

spectra at different values of HV, ADC gate width and gas pressure. The electron attachment rate in C3F8 with a stated **purity** of **99.99%** is quite low (at a given E/N the mean free path of electrons is λ=2.2 cm at 1 atm). The intrinsic energy resolution of the calorimeter after noise subtraction is found to be independent of the gas pressure and equal to $\approx$7% at E=26.6 GeV/c.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 1 OF 1 USPATFULL on STN
AN 2003:225988 USPATFULL
TI Production and use of octafluoropropane
IN Ohno, Hiromoto, Kawasaki-shi, JAPAN
Ohi, Toshio, Kawasaki-shi, JAPAN
PI US 2003157800 A1 20030821
US 6720464 B2 20040413
AI US 2002-111773 A1 20020429 (10)
WO 2001-JP7313 20010827
PRAI JP 2000-260205 20000830
DT Utility
FS APPLICATION
LREP SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., WASHINGTON, DC, 20037
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 843
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Octafluoropropane is produced by a process comprising a step (1) of reacting hexafluoropropene with hydrogen fluoride in a gas phase at a temperature of from 150 to 450° C. in the presence of a fluorination catalyst to obtain 2H-heptafluoropropane and a step (2) of reacting 2H-heptafluoropropane obtained in step (1) with fluorine gas in a gas phase at a temperature of from 250 to 500° C. in the absence of a catalyst to obtain octafluoropropane. High-purity octafluoropropane is obtained which can be used in a process for producing a semiconductor device.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 1 OF 8 USPATFULL on STN
AN 2004:63267 USPATFULL
TI Process for purifying octafluoropropane, process for preparing the same, and use thereof
IN Horiba, Minako, Kanagawa, JAPAN
Suzuki, Yasuhiro, Kanagawa, JAPAN
PI US 2004047785 A1 20040311
AI US 2002-221447 A1 20020912 (10)
WO 2002-JP147 20020111
PRAI JP 2001-6458 20010115
DT Utility
FS APPLICATION
LREP SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., WASHINGTON, DC, 20037
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 875
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for purifying octafluoropropane according to the present invention comprises the step of contacting a crude octafluoropropane containing impurities with an impurity decomposing agent under elevated temperature and then with an adsorbent to substantially remove the impurities from the crude octafluoropropane.

According to the purification process or preparation process of octafluoropropane of the present invention, the impurities such as chlorine compounds can be substantially removed and a high-**purity** octafluoropropane can be easily obtained. The octafluoropropane obtained by the purification process of the present invention is substantially free of impurities and therefore, can be used as an **etching** or **cleaning gas** for use in the production process of a semiconductor device and the like.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 2 OF 8 USPATFULL on STN
AN 2003:258262 USPATFULL
TI Adsorbent for purifying perfluorocarbon, process for producing same, high **purity** octafluoropropane and octafluorocyclobutane, and use thereof
IN Suzuki, Yasuhiro, Kanagawa, JAPAN
Atobe, Hiroshi, Kanagawa, JAPAN
Horiba, Minako, Kanagawa, JAPAN
PI US 2003181315 A1 20030925
AI US 2003-363215 A1 20030306 (10)
WO 2001-JP7988 20010914
PRAI JP 2000-279315 20000914
JP 2000-279394 20000914
US 2000-60241742 20001020
US 2000-60241744 20001020
DT Utility
FS APPLICATION
LREP SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., WASHINGTON, DC, 20037
CLMN Number of Claims: 35
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1133
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB To provide a purification adsorbent capable of effectively removing impurities contained in a perfluorocarbon and obtaining a perfluorocarbon reduced in the impurity content to 1 ppm by mass or

less; a process for producing the adsorbent; high-**purity** octafluoropropane or octafluorocyclobutane; processes for purifying and for producing the octafluoropropane or octafluorocyclobutane; and uses thereof. Purification is performed using a purification adsorbent produced by a method comprising (1) washing an original coal with an acid and then with water, (2) deoxidizing and/or dehydrating the original coal, (3) re-carbonizing the original coal at a temperature of from 500 to 700° C. and (4) activating the original coal at a temperature of from 700 to 900° C. in a mixed **gas** stream containing an inert **gas**, carbon dioxide and water vapor.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 3 OF 8 USPATFULL on STN
AN 2003:232807 USPATFULL
TI Process for producing perfluorocarbons and use thereof
IN Ohno, Hiromoto, Kawasaki-shi, JAPAN
Ohi, Toshio, Kawasaki-shi, JAPAN
PI US 2003163008 A1 20030828
AI US 2002-258172 A1 20021022 (10)
WO 2002-JP1549 20020221
PRAI JP 2001-48985 20010223
DT Utility
FS APPLICATION
LREP SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., WASHINGTON, DC, 20037
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 816
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The process for producing perfluorocarbons according to the present invention is characterized in that in the production of a perfluorocarbon by contacting an organic compound with a fluorine **gas**, the organic compound is contacted with the fluorine **gas** at a temperature of from 200 to 500° C. and the content of an oxygen **gas** within the reaction system is controlled to 2% by volume or less based on the **gas** components in the reaction starting material, whereby a perfluorocarbon reduced in the content of impurities is produced.

According to the process for producing perfluorocarbons of the present invention, high-**purity** perfluorocarbons extremely suppressed in the production of impurities such as oxygen-containing compound can be obtained. The perfluorocarbons obtained by the production process of the present invention contain substantially no oxygen-containing compound and therefore, can be effectively used as an **etching** or **cleaning gas** for use in the process for producing a semiconductor device.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 4 OF 8 USPATFULL on STN
AN 2003:225988 USPATFULL
TI Production and use of octafluoropropane
IN Ohno, Hiromoto, Kawasaki-shi, JAPAN
Ohi, Toshio, Kawasaki-shi, JAPAN
PI US 2003157800 A1 20030821
US 6720464 B2 20040413
AI US 2002-111773 A1 20020429 (10)
WO 2001-JP7313 20010827
PRAI JP 2000-260205 20000830
DT Utility

FS APPLICATION
LREP SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., WASHINGTON, DC, 20037
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 843
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Octafluoropropane is produced by a process comprising a step (1) of reacting hexafluoropropene with hydrogen fluoride in a **gas** phase at a temperature of from 150 to 450° C. in the presence of a fluorination catalyst to obtain 2H-heptafluoropropane and a step (2) of reacting 2H-heptafluoropropane obtained in step (1) with fluorine **gas** in a **gas** phase at a temperature of from 250 to 500° C. in the absence of a catalyst to obtain octafluoropropane. High-**purity** octafluoropropane is obtained which can be used in a process for producing a semiconductor device.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.